

M904 SERIES FUZE

CNTT-N390 (Rev. 8-74) PAT

Naval Technical Training Command

For Training Purposes Only

Information Concerning Programmed Instruction

This programmed lesson may be different from any instruction you have received in the past. It is a self-training text and is designed to give you instruction at the speed at which you can master it best. The material taught in this programmed lesson is essential material only. If you want to go deeper into the subject and broaden your knowledge, you can do so on your own.

Do not rush through this book. There is a time limit for the programmed lesson, but in most cases you will finish in the allotted time. If not, you will be required to complete it for home study.

An instructor will be present to answer any questions which you may have. Do not hesitate to let him know if you become confused, need help, or desire additional information. This type of instruction allows your instructor to give you individual assistance, while the rest of the class continues the lesson.

This is not a test. It is a proven means of learning and requires that you respond as indicated throughout the book. Information will be given in small blocks, called frames. After each bit of information, you will be required either to fill in the blank or to circle an answer, or to select the best of several choices given, and so forth.

Do not guess at answers. If you are not sure, review the lesson material. The correct answer will follow your response to let you know how you're doing.

Remember, if the answer you write down does not correspond with the correct answer given, make sure it is straightened out in your mind before continuing. One final word on this program: some of the material contained here could mean life or death--for you or for your shipmates.

GOOD LUCK!

M904 SERIES FUZE

Objectives

The student will:

1. State the type of the M904 series fuze. (Frame 1)
2. Select, from a given list, the improvements that the M904E3 and the M904E4 fuze provide over the M904E2 fuze. (Frame 13)
3. State the advantage of the M904E4 fuze over the M904E2 and the M904E3 fuze. (Frame 17)
4. State the nine preflight selectable arming delay times available on the M904 series fuze. (Frame 18)
5. Describe the method for selecting the arming delay time of the M904 series fuze. (Frames 22-24, 26, 27, 29, 30)
6. State the intended use of the 2-second arming delay setting. (Frame 25)
7. State what will result from reinstalling the stop screw when the fuze is set for the 2-second or the 4-second arming delay time. (Frame 28)
8. State what component determines the functioning delay times in the M904 series fuze. (Frame 31)
9. State the six preflight selectable functioning delay times available on the M904 series fuze. (Frame 32)
10. State what functioning delay time is installed in the M904 series fuze when shipped. (Frame 35)
11. State the component that an AO may remove to break the firing train of the M904 series fuze. (Frame 36)

12. State the method for observing the safe/armed condition of the M904 series fuze. (Frames 40-50 and 52)
13. State the three safe/armed conditions that must be identified on the M904 series fuze. (Frame 51)
14. State the action required if, after the M9 delay element is installed, the fuze is found to be partially armed or fully armed. (Frames 53-56, 59, 61)
15. State the action dictated by an arming delay setting knob which cannot be turned. (Frame 57)
16. State the two areas to which fuze installation is restricted. (Frame 59)
17. Number the steps, in the proper sequence, for preparing the M904 series fuze for use. (Frame 59)

RECOMMENDED READING TIME: 30 MINUTES

Introduction

The M904 series fuze is a mechanical impact nose fuze, used with the M148/T45 series adapter boosters or the thermally protected M148E1 adapter booster. The fuze is designed for use in demolition, general-purpose (GP), and low-drag (LD) bombs.

The M904 series fuze meets the requirements for a short-delay bomb nose fuze compatible with high-speed aircraft. The M904 series fuze can be considered as replacement for standard fuzes AN-M103A1, AN-M140A1, M163, M164, and M165.

	<p>1. The M904 series fuze is a mechanical impact nose fuze which replaced several of the older fuzes.</p> <p>The M904 series fuze is a mechanical _____ nose fuze.</p>
impact	<p>2. Mechanical impact nose fuzes are vane operated and impact fired.</p> <p>Bomb fuzes of the impact nose type are _____ operated and _____ fired.</p>
vane impact	<p>3. The M904 series fuze is a _____.</p>
mechanical impact nose fuze	<p>4. The M904 series consists of the M904E2, M904E3, and M904E4 fuzes.</p> <p>The fuzes which comprise the M904 series are the M904_____, M904_____, and M904_____.</p>
E2, E3, and E4	<p>5. The M904 series fuze is used with the M148/T45 series adapter boosters or the M148E1 adapter booster.</p> <p>The adapter boosters with which the M904 series fuze is used are the _____ series or the _____ adapter booster.</p>
M148/T45 M148E1	<p>6. The M904E2 and M904E3 fuzes are used with the</p>

	<p>6. (continued)</p> <p>M148/T45 series adapter boosters, which are <u>not</u> thermally protected.</p> <p>The M148/T45 series adapter boosters are not thermally protected, and the _____ and _____ fuzes are used with them.</p>
<p>M904E2</p> <p>M904E3</p>	<p>7. The M904E4 fuze is thermally protected by a protective sleeve cemented to the outer portion of the fuze. The M904E4 fuze was designed for use with the Mk 82 Mod 2 bomb and the M148E1 adapter booster, which are also thermally protected.</p>
<p>No response required.</p>	<p>8. The M904 series consists of the M904_____, _____, and _____ fuzes.</p>
<p>E2, E3, and E4</p>	<p>9. The adapter boosters with which the M904E2 and M904E3 fuzes are used are the _____ series.</p>
<p>M148/T45</p>	<p>10. The fuze that is used with the M148E1 adapter booster and the Mk 82 Mod 2 bomb is the _____.</p>
<p>M904E4</p>	<p>11. The M904E4 fuze, the M148E1 adapter booster, and the Mk 82 Mod 2 bomb are all _____ protected.</p>

thermally	12. The M904E4 fuze was designed for use with the _____ adapter booster.
M148E1	13. The M904E3 and M904E4 fuzes feature improvements over the M904E2 to obtain safer, more effective operation. The M904E3 and M904E4 have a hollow firing pin in order to provide delay functioning on hard targets. The M904E3 and M904E4 fuzes are more effective against hard targets than the M904E2, because they employ a _____ firing pin.
hollow	14. To increase their sensitivity against soft targets, the M904E3 and M904E4 fuzes employ thinner shear lugs than the M904E2 fuze. The M904E3 and M904E4 fuzes are more sensitive against soft targets, because they employ shear lugs which are _____ than those in the M904E2 fuze.
thinner	15. Two of the improvements that the M904E3 and M904E4 fuzes have over the M904E2 are _____ _____ on hard targets and better _____ on soft targets.

delay
functioning
sensitivity

16. In addition, for improved safety, the M904E3 and E4 have an improved safe/arm indicator that determines the fuze condition.

The fuze condition is more easily determined on the M904E3 and E4 fuzes because of an improved _____ indicator.

safe/arm

17. The M904E4 has an advantage over the M904E2 and the M904E3 by having a thermally protective sleeve cemented to the outer portion of the fuze. An advantage that the M904E4 has over the M904E2 and the E3 is that the M904E4 fuze is _____ protected.

thermally

18. The M904 series fuze is unique because it employs a manually selectable arming delay time. There are nine preflight selectable arming delay times which the AO can select on the M904 series fuze.

No response
required.

19. The nine preflight selectable arming delay times available are from 2 to 18 seconds in increments of 2 seconds.

<p>No response required.</p>	<p>20. The preflight selectable arming delay times available on the M904 series fuze are from ____ to _____ seconds in increments of ____ seconds.</p>
<p>2 to 18 2</p>	<p>21. The preflight selectable arming delay times available on the M904 series fuze are ____, ____, ____, ____, ____, ____, ____, ____, and ____ seconds.</p>
<p>2, 4, 6, 8, 10, 12, 14, 16, and 18</p>	<p>22. The arming delay time of the M904 series fuze is selected by depressing the setting index locking pin and rotating the arming delay setting knob to the desired setting. Study figure 1 and locate the setting index locking pin, the arming delay setting knob, and the indexing line.</p>
<p>No response required.</p>	<p>(Figure 1 is on the next page.)</p>

delay functioning sensitivity	<p>16. In addition, for improved safety, the M904E3 and E4 have an improved <u>safe/arm</u> indicator that determines the fuze condition.</p> <p>The fuze condition is more easily determined on the M904E3 and E4 fuzes because of an improved _____ indicator.</p>
safe/arm	<p>17. The M904E4 has an advantage over the M904E2 and the M904E3 by having a thermally protective sleeve cemented to the outer portion of the fuze. An advantage that the M904E4 has over the M904E2 and the E3 is that the M904E4 fuze is _____ protected.</p>
thermally	<p>18. The M904 series fuze is unique because it employs a manually selectable arming delay time. There are nine preflight selectable arming delay times from which the AO can select on the M904 series fuze.</p>
No response required.	<p>19. The nine preflight selectable arming delay times available are from 2 to 18 seconds in increments of 2 seconds.</p>

<p>No response required.</p>	<p>20. The preflight selectable arming delay times available on the M904 series fuze are from ____ to _____ seconds in increments of ____ seconds.</p>
<p>2 to 18 2</p>	<p>21. The preflight selectable arming delay times available on the M904 series fuze are ____, ____, ____, ____, ____, ____, ____, ____, and ____ seconds.</p>
<p>2, 4, 6, 8, 10, 12, 14, 16, and 18</p>	<p>22. The arming delay time of the M904 series fuze is selected by depressing the setting index locking pin and rotating the arming delay setting knob to the desired setting. Study figure 1 and locate the setting index locking pin, the arming delay setting knob, and the indexing line.</p>
<p>No response required.</p>	<p>(Figure 1 is on the next page.)</p>

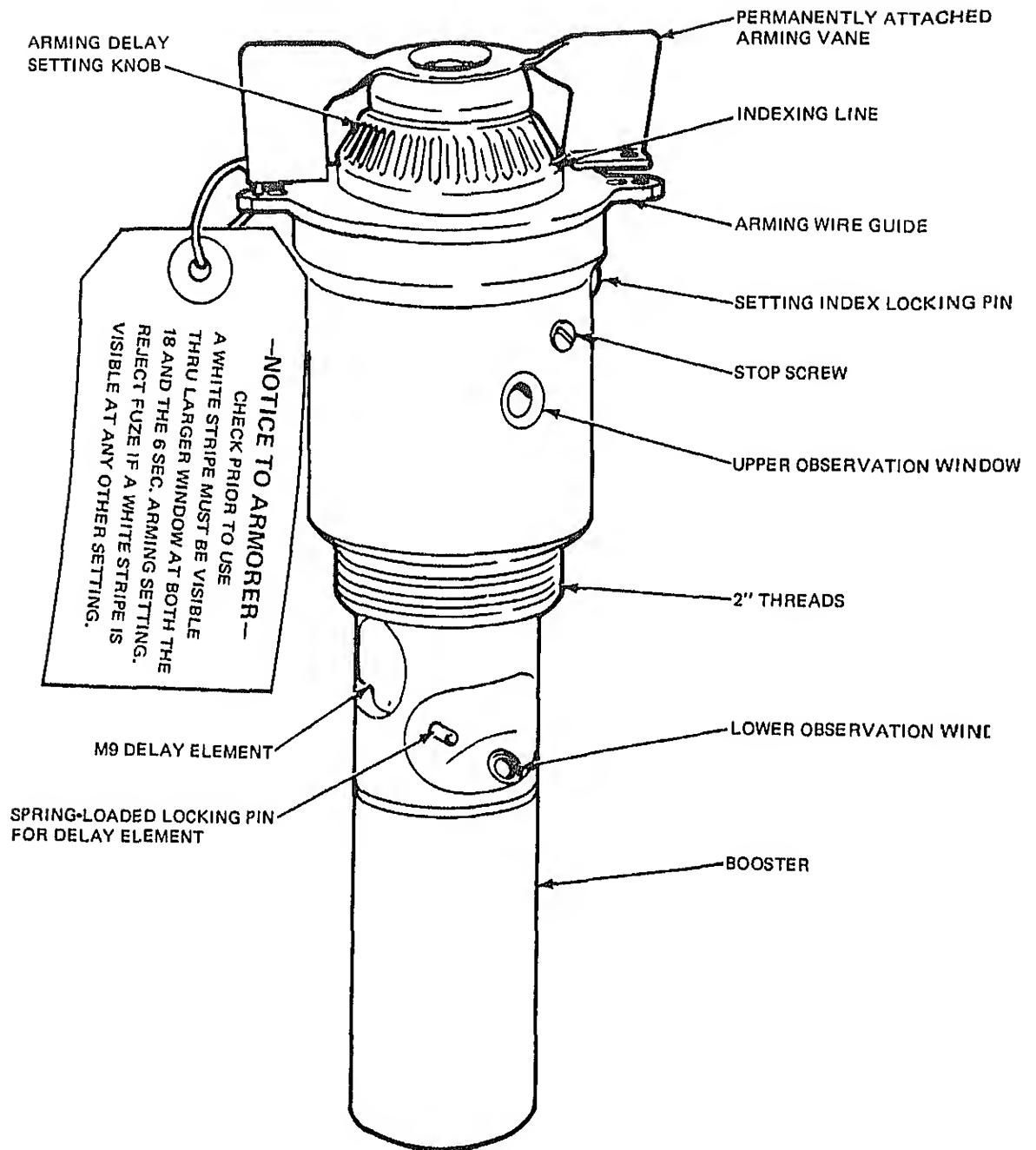


Figure 1.--Mechanical nose fuze M904E2/E3.

	<p>23. To select the desired arming delay time on the M904 series fuze, the ordnanceman would _____ the setting index locking pin and _____ the arming delay setting knob until the white indexing line is aligned with the desired arming delay time.</p>
<p>depress</p> <p>rotate</p>	<p>24. The arming delay time is selected by depressing the _____ and rotating the _____ to the desired arming delay setting.</p>
<p>setting index locking pin</p> <p>arming delay setting knob</p>	<p>25. The 2-second arming delay setting is intended for use with retarded deliveries only.</p> <p>Retarded deliveries dictate the use of the _____-second arming delay setting on the M904 series fuze.</p>
<p>2</p>	<p>26. To select an arming delay time of less than 6 seconds, the stop screw must first be removed. Go back to figure 1 and find the location of the stop screw on the illustration; then return to frame 26.</p>
<p>No response required.</p>	<p>27. For an arming delay time of 2 seconds or 4 seconds, the AO must remove the _____.</p>

<p>stop screw</p> <p>"</p>	<p>28. The stop screw should be retained. In the event the fuze bomb is returned onboard, the stop screw must be reinstalled in the fuze. <u>DO NOT</u> reinstall the stop screw when the fuze is set for 2- or 4-second arming delay time. This will cause the bomb to <u>dud</u>.</p> <p>If the stop screw is reinstalled when the fuze is set for 2- or 4-second arming delay time, the bomb will ____.</p>
<p>dud</p>	<p>29. To select an arming delay time of 10 seconds, one would depress the _____ locking pin and rotate the _____ setting knob until the white _____ line is aligned with 10 seconds.</p>
<p>setting index</p> <p>arming delay</p> <p>indexing</p>	<p>30. To select an arming delay time of 4 seconds, one would remove the _____, depress the setting index _____, and rotate the arming delay _____ until the white indexing line is aligned with 4 seconds.</p>
<p>stop screw</p> <p>locking pin</p>	<p>31. The firing train in the M904 series fuze is very similar to that of other nose fuzes. But there is one distinct difference: the M9 delay element can</p>

31. (continued)

be changed by the AO to give six preflight selectable FUNCTIONING delay times. (The appropriate delay time is imprinted on the outboard end of each M9 delay element.) To change the functioning delay time of the M904 series fuze, the AO may change the M9 _____.

Remember: ARMING TIME is the time it takes the firing train to align after the bomb is released from the aircraft. FUNCTIONING TIME is the time it takes the bomb to detonate after impact.

delay
element

32. The M9 delay element may be used to provide the following preflight selectable functioning delay times.

They are: Instantaneous (0.000 second)

0.01 second

0.025 second

0.05 second

0.10 second

0.25 second

By changing the M9 delay element, the penetration of the bomb before detonation can be varied.

Which M9 delay element would be used to provide detonation immediately upon impact? _____

<p>Instantaneous or 0.000-second delay element.</p>	<p>33. The functioning delay time of the M904 series fuze is determined by the M9 delay element installed in the fuze. By selecting different elements, _____ different functioning delay times are available.</p>
<p>six</p>	<p>34. The functioning delay times available with the M9 delay element are _____, _____, _____, _____, _____, and _____.</p>
<p>0.000, 0.01, 0.025, 0.05, 0.10, and 0.25</p>	<p>35. If the M904 series fuze is shipped with an M9 delay element installed, the functioning delay time will be either the 0.000- or the 0.025-second delay element.</p> <p>When the M904 series fuze is shipped with an M9 delay element installed, the functioning delay time will be either the _____-second or the _____-second delay element.</p>
<p>0.000, 0.025</p>	<p>36. The M9 delay element is the first component in the explosive train of the M904 series fuze. The complete explosive train is illustrated in figure 2. Study it carefully.</p> <p>(Continued on the next page.)</p>

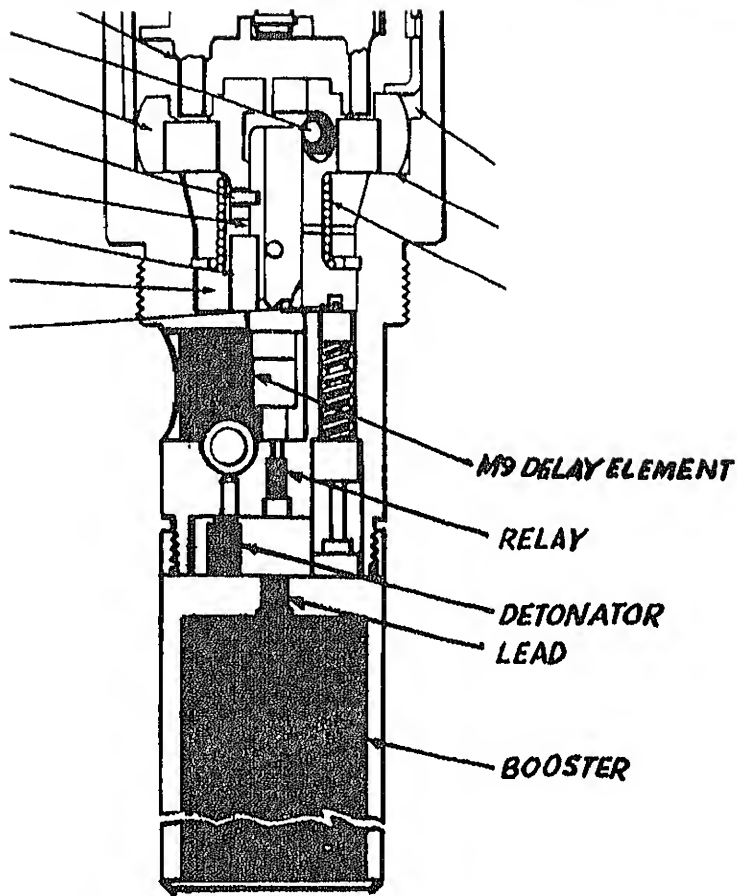


Figure 2

No response
required.

37. The only component in the firing train illustrated in frame 36 that the AO is permitted to change is the M9 delay element.

No response
required.

38. To select any one of six functioning delay times, the AO is permitted to change the _____.

M9 delay element	<p>39. Removal of the M9 delay element interrupts the firing train of the M904 series fuze, thereby rendering the fuze safe.</p> <p>To render the M904 series fuze safe, the AO may remove the M9 _____.</p>
delay element	<p>40. The arming sequence of the M904 series fuze is described in this and the following frames. Use the foldout diagram on page 25 to study the sequence. As the bomb is released from the aircraft, the arming wire is withdrawn from the fuze. The arming vane is then free to rotate in the airstream. The arming vane cannot rotate until the _____ has been withdrawn.</p>
arming wire	<p>41. The arming vane is connected to a clutch type of governor which limits the governor speed to 1,800 r.p.m. ± 100 r.p.m. The governor is connected to the reduction gear mechanism.</p> <p>The governor is limited to a speed of _____ r.p.m. \pm _____ r.p.m.</p>
1,800 100	<p>42. The governor is connected through a spur train with a reduction ratio of 972:1 to the striker assembly. The striker assembly rotates at slightly</p>

42. (continued)

less than 2 r.p.m. As it rotates to the correct position, the compressed spring forces the striker assembly upward. What forces the striker assembly upward?

The compressed spring.

43. When the striker assembly has risen a certain distance, a steel ball is propelled into the firing pin slot, effectively lengthening the firing pin to compensate for the longitudinal movement of the striker body.

The length of the firing pin is extended by the

steel ball

44. This completes the first stage of arming. Any force on the nose (as on impact) would be transmitted to the firing pin by the striker and steel ball. This stage of arming can be determined by looking into the upper, larger arming window. If the striker assembly has rotated to the armed position, RED can be seen in the arming window. If red can be seen in the upper, larger window, it indicates the striker assembly has rotated and moved upward. As the striker

steel ball	45. The first stage of arming can be determined by looking into the _____, _____ _____.
upper, larger arming window	46. If red can be seen in the upper, larger arming window, the fuze is _____.
armed	47. The second stage of arming is accomplished by the rotor release rod and the detonator rotor. The figure 3 shows how the detonator rotor, which contains the relay, is held out of alignment with the firing train.

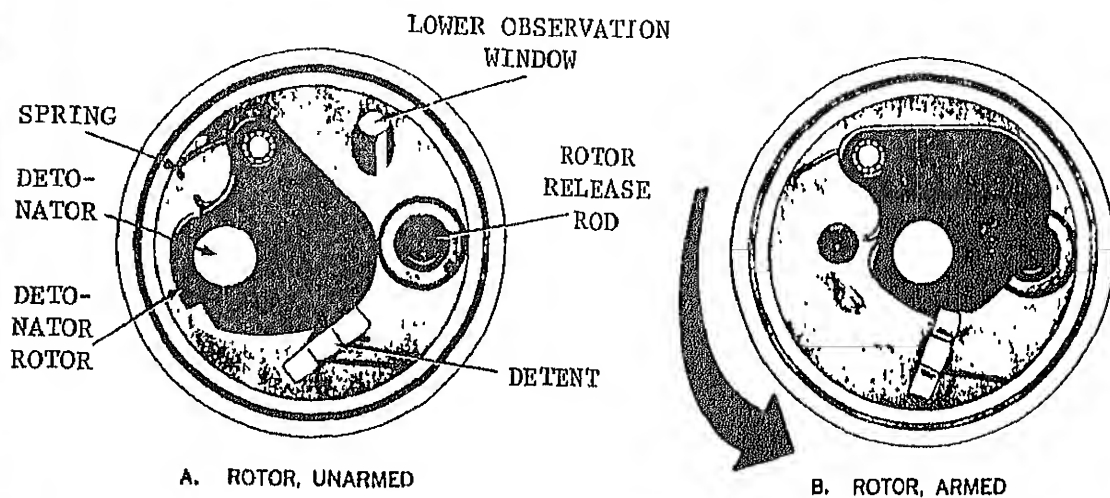


Figure 3.--View from booster end of fuze.

48. Study figure 3 carefully during the following explanation.

The rotor release rod is held downward until the firing pin guide rotates. When the circumferential slot in the firing pin guide is over the rotor release rod, the compressed spring forces the rotor release rod upward.

When this occurs, the detonator rotor is free to swing to the INLINE position by spring action. The rotor release rod cannot move upward until the _____ has rotated.

Firing pin
guide

49. When the detonator rotor has swung over to the INLINE position, the firing train is in alignment. The position of the detonator rotor can be determined by looking into the lower, small observation window. If red can be seen, the fuze is armed. If red is visible in the lower arming observation window, it indicates the _____ train is in alignment. The M904 series fuze is detonator safe and contains two observation windows through which the safe/armed condition may be observed.

firing	<p>50. If red is seen in either window, the fuze is armed. Remove the M9 delay element and notify MOD personnel immediately.</p>
	<p>51. There are three safe/armed conditions that must be identified on the M904 series fuze: safe, partially armed, and armed.</p> <p>The three safe/armed conditions that the AO must recognize in the M904 series fuze are _____, _____, and _____.</p>
safe, partially armed, armed	<p>52. If red is seen in either window, the fuze must be rejected.</p> <p>Red showing in either the upper or lower window indicates that the fuze is _____ and must be rejected.</p>
armed	<p>53. The fuze is dangerous to handle if either or both windows indicate the armed condition. If, after installing the M9 delay element, the armed condition is indicated, remove the M9 _____ and notify _____ personnel immediately.</p>

delay element

EOD

54. There are slight differences in the indications for determining the safe/armed condition of the M904E2 and the M904E3/E4 fuze. The tables in figure 4 list all conditions for the M904 series fuze. Study them carefully.

Indications for Determining Conditions of M904E2.

Condition	Time Setting	Upper Window	Lower Window
Safe	18 and 6 Seconds	** White stripe visible at both settings	Vacant or dark in color.
Partially Armed	18 and 6 Seconds	White stripe not visible at either setting (If white stripe is visible at any setting other than 18 or 6 secs., fuze is partially armed.)	Vacant or dark in color
Armed	Any setting. (Time setting cannot be changed.)	* Full red.	* Red. Some fuzes have black letter "A" on red background.

* The fuze is dangerous to handle if either or both windows indicate the armed condition.

** On some M904 fuzes, a thin red line may be visible even though the fuze is safe.

Indications for Determining Conditions of M904E3/E4.

Condition	Time Setting	Upper Window	Lower Window
Safe	18 Seconds	White number "18" on green background	Vacant or dark in color.
	6 Seconds	White number "6" on green background.	
Partially Armed	18 and 6 Seconds	Green background with no numbers visible (If numbers appear at other than "18" or "6" second setting or if numbers do not match settings, fuze is partially armed.)	Vacant or dark in color.
Armed	Any setting (Time setting cannot be changed.)	* Red with black letter "A's." (Some green may show at top of window.)	* Red with black letter "A."

* The fuze is dangerous to handle if either or both windows indicate the armed condition.

Figure 4

	<p>55. You are installing an M904E3 or an M904E4 fuze. After rotating the arming delay setting knob to 18 seconds, a white number "18" on a green background is visible in the upper window. After rotating the arming delay setting knob to 6 seconds, a white number "6" on a green background is visible in the upper window. An inspection of the lower arming window indicates vacant or dark in color at both settings. The fuze can be considered to be _____.</p>
safe	<p>56. An M904E2 fuze is being installed. While rotating the arming delay setting knob from 6 seconds to 18 seconds, a white stripe becomes visible in the upper window at the 12-second setting (or at any setting other than the 6-second and the 18-second arming setting). The fuze must be considered _____ and _____ personnel must be notified.</p>
partially armed EOD	<p>57. You are installing an M904E2, an M904E3, or an M904E4 fuze, and you find that the arming delay setting knob cannot be rotated. (Inspection of the upper and lower arming windows indicates red.) The fuze is _____ and _____ personnel must be notified immediately.</p>

<p>armed</p> <p>EOD</p>	<p>58. An arming delay setting knob that cannot be rotated indicates that the fuze is armed. A fuze with an arming delay setting knob that cannot be rotated must be considered _____, and _____ personnel must be notified immediately.</p>
<p>armed</p> <p>EOD</p>	<p>59. Installing the fuze.</p> <ul style="list-style-type: none"> a. Care must be used when handling the M904 series fuze. If the fuze is dropped, do not use it. b. Verify that the arming vane and the nose retaining ring are safety wired. c. Check the fuze for the arming condition. <p style="margin-left: 40px;">WARNING: Any evidence of arming, either partial or full, requires disarming by <u>authorized personnel only</u>. Notify EOD immediately.</p> <p style="margin-left: 40px;">Depress the setting index locking pin and rotate the arming delay setting knob to 18 seconds, then to 6 seconds. Compare the observation window indications to the conditions listed in Table 9-2 or Table 9-3 of NAVAIR 11-5A-17, or the tables in figure 4.</p> d. If not for immediate use, reset the arming delay setting knob to 18 seconds.

59. (continued)

- e. If using the M904E4 fuze, inspect the molded sleeve to ensure that it is firmly bonded to the body of the fuze. If it is loose or cracked, reject the fuze.
 - (1) When installing the M904 series fuze, several safety precautions must be adhered to. If the fuze is dropped, it should NOT be _____.
 - (2) Ensure that the arming vane and the nose retaining ring are _____ wired.
 - (3) Check the fuze for the _____ condition.
 - (4) On the M904E4 fuze, if the molded sleeve is loose or cracked, _____ the fuze.
- f. For bombs requiring an adapter booster, screw the adapter booster into the nose fuze well of the bomb and tighten with a spanner wrench.
 - (1) If an adapter booster is required, the adapter booster is _____ into the bomb and _____ with a spanner wrench.
- g. Adjust the arming delay setting knob on the fuze for the desired setting.
- h. Ensure that the desired M9 delay element has been installed in the fuze.

59. (continued)

i. If it is necessary to change the M9 delay element, install as follows:

- (1) Remove the previously installed M9 delay element by depressing the spring-loaded locking pin on the side of the fuze. Hold the fuze so that the M9 delay element falls out of the fuze body into the hand. The appropriate delay time is imprinted on the outboard end of each M9 delay element.
- (2) Depress and hold the spring-loaded locking pin and insert the M9 delay element, release the pin, and check to see if the element is properly installed.
- (3) The M9 delay element should slide out of and into the fuze easily--DO NOT FORCE.
- (4) Recheck the safe/armed condition of the fuze.
- (5) If the fuze is found to be partially armed or fully armed after the M9 delay element is installed, the fuze is potentially lethal. The M9 delay element must be removed to break the firing train, and EOD must be notified immediately.
 - (a) If, after installation of the M9 delay

59. (continued)

element, the fuze is found to be partially armed or armed, the M9 delay element must be _____ and _____ must be notified immediately.

j. NOTE: Fuze installation is restricted to the flight line or to the flight deck ONLY. Screw the M904 fuze into the nose fuze well of the bomb or into the adapter booster (for bombs that require an adapter booster) until it is hand-tight. DO NOT use tools.

(1) The fuze is screwed into the fuze well or the adapter booster until it is _____-tight.

(2) The installation of the fuze is restricted to the flight _____ or to the flight _____.

- e. (1) used
- e. (2) safety
- e. (3) armed
- e. (4) reject
- f. (1) screwed
tightened
- i. (5) (a)
removed
EOD
- j. (1) hand
- j. (2) line
deck

60. Installing the arming wire.

- a. Do not remove the cotter pin (sealing wire) until after the arming wire has been installed on the bomb rack.
- b. Thread the arming wire through the forward bomb lug, then through the holes in the flange of the vane support and in the vane.

60. (continued)

- c. Slip two Fahnestock clips over the end of the arming wire until they touch the vane.
- d. Be sure that the arming wire is free from kinks and burrs.
- e. Cut excessive arming wire between 2 and 3 inches from the Fahnestock clips.

(1) How many Fahnestock clips are used with the M904 series fuze? _____

(2) How far should the arming wire protrude from the vane? _____

Two.

Between
2 and 3
inches.

61. Defuzing a bomb.

- a. Check the arming window on the M904 fuze to ensure the fuze is safe.
- b. Armed or partially armed fuzes must be removed by authorized personnel only.
- c. Replace the sealing wire (cotter pin).
- d. Remove the two Fahnestock clips and withdraw the arming wire.
- e. Carefully unscrew the M904 fuze from the bomb. Immediately remove the M9 delay element.
- f. Repack the fuze and the M9 delay element in their respective containers.

61. (continued)

g. Using the spanner wrench, unscrew the T45 series/M148/M148E1 adapter booster and repack in container.

h. The bomb is now defuzed. Normal safety precautions must be observed and all components must be moved to their storage areas.

(1) In defuzing a bomb, if red is observed in the arming window, what procedure is followed?

Call EOD.

YOU HAVE JUST COMPLETED THIS PROGRAM.

INFORM YOUR INSTRUCTOR.

61. (continued)

g. Using the spanner wrench, unscrew the T45 series/M148/M148E1 adapter booster and repack in container.

h. The bomb is now defuzed. Normal safety precautions must be observed and all components must be moved to their storage areas.

(1) In defuzing a bomb, if red is observed in the arming window, what procedure is followed?

Call EOD.

YOU HAVE JUST COMPLETED THIS PROGRAM.
INFORM YOUR INSTRUCTOR.

- 1 VANES OPERATE, OPERATING REDUCTION GEAR AND SPUR GEAR.
- 2 SLOWLY RAISING THE STRIKER ASSEMBLY.
- 3 THE STEEL BALL IS FORCED INBOARD, LENGTHENING THE FIRING PIN.
- 4 THE STRIKER GUIDE ROTATES UNTIL THE CIRCUMFERENTIAL SLOT IS OVER THE ROTOR RELEASE PIN.
- 5 WHEN THE ROTOR RELEASE PIN SPRINGS UP IN THE CIRCUMFERENTIAL SLOT, IT FREES THE ROTOR.
- 6 THE ROTOR SWINGS INBOARD, ALIGNING THE DETONATOR WITH THE EXPLOSIVE TRAIN.
- 7 IMPACT FORCES THE STRIKER AGAINST THE STRIKER ASSEMBLY AND STEEL BALL DRIVING THE FIRING PIN INTO THE M9 DELAY ELEMENT, WHICH SETS OFF THE EXPLOSIVE TRAIN.

M904 SERIES FUZE

Criterion Examination

1. What type of fuze is the M904 series fuze?

2. Select from the following list the improvements that the M904E3 and M904E4 fuzes provide over the M904E2 fuze.

- a. _____ Provide delay functioning on hard targets by use of a hollow firing pin.
- b. _____ Both have a thermally protective sleeve.
- c. _____ Both are detonator safe.
- d. _____ Both have an improved safe/arm indicator.
- e. _____ Both use a thinner shear lug to improve sensitivity against soft targets.

3. What advantage does the M904E4 fuze provide over both the M904E2 and M904E3 fuzes?

4. The preflight selectable arming delay times available on the M904 series fuze are _____, _____, _____, _____, _____, _____, _____, _____, and _____ seconds.

5. Describe the method for selecting a 12-second arming delay setting on the M904 series fuze.

6. The 2-second arming delay setting is intended for use with a _____ delivery only.
7. What will result from reinstalling the stop screw when the fuze is set for 2-second or 4-second arming delay time?

8. Which component determines the functioning delay times in the M904 series fuze?

9. The preflight selectable functioning delay times available on the M904 series fuze are _____, _____, _____, _____, _____, and _____.
10. If the M904 series fuze is shipped with an M9 delay element installed, what functioning delay time will be installed?
_____ or _____.
11. To break the firing train of the M904 series fuze, the AO may remove the _____.
12. What is the method for observing the safe/armed condition of the M904 series fuze?

13. What are the three safe/armed conditions that must be identified on the M904 series fuze?
_____, _____, and _____.
14. What action is required if, after the M9 delay element is installed, the fuze is found to be partially armed or fully armed?

15. What action is required if the arming delay setting knob on the M904 series fuze cannot be turned?

16. Fuze installation is restricted to the _____
or to the _____ only.

17. The steps in the following list are involved in the preparation for use of the M904 series fuze. Number the steps in the proper sequence.

_____ If using the M904E4 fuze, inspect the molded sleeve to ensure that it is firmly bonded to the body of the fuze.

_____ Ensure that the desired M9 delay element has been installed in the fuze.

_____ Verify that the arming vane and the nose retaining ring are safety wired.

_____ Adjust the arming delay setting knob on the fuze for the desired setting.

_____ Screw the fuze into the nose fuze well of the bomb or into the adapter booster until it is hand-tight.

_____ For bombs requiring an adapter booster, screw the adapter booster into the nose fuze well of the bomb and tighten with a spanner wrench.

_____ Check the fuze for the arming condition.